

**AMENDMENTS**

**IN THE CLAIMS**

Please amend the claims to read as follows:

1. (Currently Amended) A voltage-controlled tunable multilayer filter comprising:  
a first resonator on a ~~first~~ top layer of low-temperature-co fired-ceramic (LTCC);  
a second resonator coupled to said first resonator on a ~~second~~ bottom layer of low-temperature-co fired-ceramic (LTCC);  
a third resonator coupled to said second resonator and cross coupled to said first resonator;  
an input transmission line connected to said first resonator;  
an output transmission line connected with said third resonator; ~~and~~  
a voltage tunable variable capacitor in at least one of said resonators[.]  
a ground plane connected to said bottom layer with an isolation in said bottom layer of said ground plane;  
a right side DC bias port in said bottom layer with a thruhole provided to a right-side of said microstrip-stripline resonator;  
a left-side DC bias port with at least one thruhole to a left-side of said microstrip-stripline resonator; and  
a center DC bias port with at least one thruhole to the center of said microstrip-stripline resonator.
2. (Original) The voltage-controlled tunable multilayer filter of claim 1, further

comprising a dc blocking capacitor in at least one of said resonators.

3. (Original) The voltage-controlled tunable multilayer filter of claim 2, further comprising DC biasing circuit associated with said filter.

4. (Previously Amended) The voltage-controlled tunable multilayer filter of claim 3, wherein said DC biasing circuit includes at least one resistor to prevent leakage into said DC biasing circuit.

5. (Previously Amended) The voltage-controlled tunable multilayer filter of claim 1, wherein there are a total of nine layers of LTCC.

6. (Previously Amended) The voltage-controlled tunable multilayer filter of claim 5, wherein at least two of said nine layers are used as an inner ground plane to implement a stripline structure.

7. (Previously Amended) The voltage-controlled tunable multilayer filter of claim 6, wherein the second layer and the sixth layer are used as the inner ground plane to implement the stripline structure.

8. Cancel claim 8.

9. Cancel Claim 9.

10. (Previously Amended) The voltage-controlled tunable multilayer filter of claim 7, wherein input output lines are taken to the bottom plane through apertures in the second layer.

11. Cancel claim 11.

12. (Previously Amended) The voltage-controlled tunable multilayer filter of claim 1, wherein a center frequency of the filter is tuned by changing the variable capacitor capacitance by changing a voltage.

13. (Previously Amended) A method of using voltage to tune a multilayer filter, comprising the steps of:

providing a first resonator on a first layer of low-temperature-co fired-ceramic (LTCC);

providing a second resonator coupled to said first resonator on a second layer of low-temperature-co fired-ceramic;

providing a third resonator coupled to said second resonator and cross coupled to said first resonator;

connecting a ground plane to said bottom layer with an isolation in said bottom layer of said ground plane;

providing a right side DC bias port in said bottom layer with a thruhole provided to a right-side of said microstrip-stripline resonator;

providing a left-side DC bias port with at least one thruhole to a left-side of said microstrip-stripline resonator;

providing a center DC bias port with at least one thruhole to the center of said microstrip-stripline resonator;

inputting a transmission line connected to said first resonator;

outputting a transmission line connected with said third resonator; and

varying the capacitance in at least one of said resonators by using a voltage tunable capacitor.

14. (Original) The method of using voltage to tune a multilayer filter of claim 13, further comprising the steps of including a dc blocking capacitor in at least one of said resonators.

15. (Original) The method of using voltage to tune a multilayer filter of claim 14, further comprising biasing said filter with a DC biasing circuit.

16. (Previously Amended) The method of using voltage to tune a multilayer filter of claim 15, wherein said DC biasing circuit include at least one resistor to prevent leakage into said DC biasing circuit.

17. (Previously Amended) The method of using voltage to tune a multilayer filter of claim 13, wherein there are a total of nine layers of LTCC tape.

18. (Previously Amended) The method of using voltage to tune a multilayer filter of claim 17, wherein at least two of said nine layers are used as an inner ground plane to implement a stripline structure.

19. (Previously Amended) The method of using voltage to tune a multilayer filter of claim 18, wherein the second layer and the sixth layer are used as the inner ground plane to implement the stripline structure.

20. Cancel claim 20.

21. Cancel claim 21.

**PATENT**

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22. (Previously Amended) The method of using voltage to tune a multilayer filter of claim 19, wherein input output lines are taken to the bottom plane through apertures in the second layer.

23. Cancel claim 23.

24. (Previously Amended) The method of using voltage to tune a multilayer filter of claim 13, wherein a center frequency of the filter is tuned by changing the variable capacitor capacitance by changing a voltage.

Please cancel claims 25 – 27.